Glrpmbsargml

Qmkcrfgle%q Upmle

Kw ?nnpm_af

The focus of ***Cracking the Coding Interview*** is algorithm, coding and design questions. Why? Because while you can and will be asked behavioral questions, the answers will be as varied as your resume. Likewise, while many firms will ask so-called "trivia" questions (e.g., "What is a virtual function?"), the skills developed through practicing these questions are limited to very specific bits of knowledge. The book will briefly touch on some of these questions, to

@cfglbrfc Qaclcq

@cfglb rfc Qaclcqz The Amazon Interview

Amazon's recruiting process usually begins with one or two phone screens in which you interview with a specific team. The engineer who interviews you will usually ask you to write simple code and read it aloud on the phone. They will ask a broad set of questions to explore what areas of technology you're familiar with.

Next, you

GIrcptgcu U_p Qrmpgcq

@cdmpc rfc Glrcptgcu z Resume Advice

@cdmpc rfc Glrcptgcu z

The Interview and Beyond

?rrfc Glrcptgcuz

Part 1
Data Structures

Af_nrcp / | Arrays and Strings

Af_nrcp 0 | Linked Lists

2,/

Part 2
Concepts and Algorithms

Af_nrcp 5 | Object Oriented Design

5,/ Design the data structures for a generic deck of cards. Explain how you would subclass it to implement particular card games.

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5,0 Imagine you have a call center with three levels of employees: fresher, technical lead (TL), product manager (PM). There can be multiple employees, but only one TL or PM. An incoming telephone call must be allocated to a fresher who is free

c(A)the ca(v) 10(,)8-10h(ee)8-10 (or)8-10(eser)8-10 (must)80(es (coca) 4 (t) 6 er)8-10 (the)8-10

Af_nrcp 6 | Recursion

Af_nrcp 7 | Sorting and Searching

Part 3
KnowledgBased

Af_nrcp /1 | C++

/1,/

Af_nrcp /4 | Low Level

Cow Level

/5

Part 4
Additional Review Problems

Af_nrcp0. | Hard

0.,/

Input: DAMP, LIKE

Output: DAMP -> LAMP -> LIMP -> LIME -> LIKE

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Each problem may have many 'optimal' solutions that differ in runtime, space, clarity, extensibility, etc. We have provided one (or more) optimal solutions. If you have additional solutions you would like to contribute, please contact us at http://www.xrl.us/ccbook or support@careercup.com.

We welcome all feedback and suggestions. Contact us at http://www.xrl

Solutions

I,3 Write a method to replace all spaces in a string with ‘%20’.

pg 48

QMJSRGML

The algorithm is as follows:

1. Count the number of spaces during the first scan of the string.
2. Parse the string again from the end and for each character:

   »

Qmjsrgmlq rm Af_nrcp /

Qmjsrgml q rm Af_nrcp 0 | Linked Lists

0,/ Write code to remove duplicates from an unsorted

0,2 You have two numbers represented by a linked list, where each node contains a single digit. The digits are stored in reverse order, such that the 1's digit is at the head of the list.

Qmjsrgmlq rm Af_nrcp 0 | Linked Lists

1, / Describe how you could use a single

Qmjsrgmlq rm Af_nrcp 1 | Stacks and Queues

Qmjsrgmlq rm Af_nrcp 1 | Stacks and Queues

1

g 86ivan node, an **2.3** Write an algorithm to find the ‘next’ node (e.g

2,4

Qmjsrgmlq rm Af_nrcp 3 | Bit Manipulation

Qmjsrgmlq rm Af_nrcp 3 | Bit Manipulation

Qmjsrgmlq rm Af_nrcp 3 | Bit Manipulation

3,3 Write a function to determine the number of bits required to convert integer A to integer B.

Input: 31, 14

Qmjsrgmlq rm Af_nrcp 3 | Bit Manipulation

_

4,0

4,1 You have a □

»

Qmjsrgml q rm Af_nrcp 4

Qmjsrgml Iqrm Af_nrcp 4 | Brain Teasers

Qmjsrgml Iq rm Af_nrcp 5 | Object Oriented Design

Qmjsrgmlq rm Af_nrcp 5 | Object Oriented Design

5

Qmjsrgmlq rm Af_nrcp 5

5,3 Design the data structures for an online book reader system.

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QMJSRGML

Since the problem doesn’t describe much about the functionality, let’s assume we want to

Qmjsrgml Iq rm Af_nrcp 5 | Object Oriented Design

Qmjsrgmlq rm Af_nrcp 6

6,5 Given an infinite number of quarters (25 cents), dimes (10 cents), nickels (5 cents) and pennies (1 cent), write code to calculate the number of ways of representing n cents.

pg 64

QMJSRGML

This is a recursive problem, so let's figure out how to do makeChange(n) using prior solutions (i

Qmjsrgml q rm A f_nrcp 7

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Z}  }   yy}C6'&)-(}/,-46)}(6*&6-86
Y
```

Qmjsrgmlq rm Af_nrcp / . | Mathematical

Qmjsrgm lq rm Af_nrcp /. | Mathematical

```
    }
```

Qmjsrgml qrm Af_nrcp / / | System Design and Memory Limits

Qmjsrgmlq rm Af_nrcp //

Qmjsrgmlq rm Af_nrcp //

Qmjsrgmlq rm Af_nrcp /1 | C++

Qmjsrgmlq rm Af_nrcp /1 | C++

/1,4 What is name hiding in C++?

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QMJSRGML

Let us explain through an example.

/2,1 What is the difference between final, finally, and finalize?

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QMJSRGMLQ

Final

When applied to a variable (

Qmjsrgmlq rm Af_nrcp /2 | Java

/2,4

/3,1

Qmjsrgmlq rm Af_nrcp /3 | Databases

/4,/ Explain the following terms: virtual memory, page fault, thrashing

/4,0

/4,2 Write a step by step execution of things that happen after a user presses a key on the [redacted]ch detail as possible.

pg 82

QMJSRGML

/4,

Qmjsrgmlq rm Af_nrcp /4 | Low Level

3 ns after a read begins. Uninteresting time segments are surrounded by [brackets]. Each character represents 1 ns

Qmjsrgmlq rm Af_nrcp /5 | Networking

/5,0 Explain any common routing protocol in detail. For example: BGP, OSPF, RIP

- Startup.

Qmjsrgml Iqrm Af_nrcp /6 | Threads and Locks

/6,/ What’s the difference between a thread and a process?

pg 86

QMJSRGML

Processes and threads are related to each other but are fundamentally different.

A process can be thought of as an instance of a program in execution. Each process is an independent entity to which system resources (CPU time, memory, etc.

Qmjsrgmlq rm Af_nrcp /6 | Threads and Locks

/6

Qmjsrgml q rm Af_nrcp /7 | Moderate

Qmjsrgmlq rm Af_nrcp /7 | Moderate

/7,// Design an algorithm to

Qmjsrgml I q rm A P

Qmjsrgmlq rm Af_nrcp 0. | Hard

0.,6 Given a s->-4 (ing)s->518 yen s->-4 (ingsen 59 (T(c) 10,en) 18desig(c) 6(en) 18 (a) 18methoden)

Qmjsrgm I q rm A

```
}   }   }
```

```
}   }   }   }   r
}   }   }   }   (2!6ccs
}   }   }   r
}   }   r
}   }   8,/``s
}   r
}   )6'&)-}(*s
r


```

0.,/1 Given a dictionary of millions of words, give an algorithm to find the largest possible rectangle of letters such that every row forms a word mes1ading10(d)le 12-(ds)t td ord (t) 12 (ev